Density, Speed of Sound and Viscosity of Four Bio-derived Fuels

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Measurements of density, speed of sound, and viscosity have been conducted on four bio-based fuels derived from various renewable sources. Speed of sound was measured over the temperature range 283 K to 343 K while viscosity was measured from 263 K to 373 K. Both properties were measured at ambient pressure. The density measurements were wide ranging covering temperatures from 270 K to 470 K and pressures up to 50 MPa. Measurement results will be compared with those of other synthetic or petroleum derived fuels as well as against existing surrogate models.